SANTA ROSA COUNTY
AG SHEET

APRIL, 2000

DATES TO REMEMBER

CORE, ORNAMENTAL & TURF PESTICIDE ..... APRIL 27, 2000
REVIEW AND TESTING 8:00 PM
MILTON EXTENSION OFFICE

BEEF CATTLE SHORT COURSE ..... MAY 3-5, 2000
SHERATON HOTEL, GAINESVILLE, FLORIDA
(FOR MORE INFORMATION CONTACT THE JAY EXTENSION OFFICE 675-3107)

NORTHWEST FLORIDA COTTON SCOUT SCHOOL ..... JUNE 5, 2000
JAY CIVIC CENTER (CEU'S WILL BE OFFERED) 8:45 AM - 3:30 PM

WEED SCIENCE FIELD DAY ..... JUNE 27, 2000
WEST FLORIDA RESEARCH AND EDUCATION CENTER - JAY

EXTENSION FIELD DAY ..... JULY 18, 2000
WEST FLORIDA RESEARCH AND EDUCATION CENTER - JAY

HAY DAY ..... JULY 20, 2000
BILL JORDAN FARM

IN THIS ISSUE

SANTA ROSA COUNTY EXTENSION WEB SITE

The Santa Rosa County Extension office now has a web site. You can obtain information in all program areas including Agriculture, Horticulture, 4-H Youth, Family and Consumer Science, and Marine Science. The address is: http://www.co.santa-rosa.fl.us/extension/

COTTON VARIETY SELECTION

Growers should diversify across technology, genetics, planting date, maturity class, and company. There are numerous suggestions for variety selection and diversification, but the keys are not only to plant several different varieties ("don't put all your eggs in one basket") but also to plant varieties of known performance.

Mid-full season varieties have broad appeal for most of North Florida, especially for non-irrigated production. As compared to early maturing varieties, mid-full season varieties are more indeterminate and thus have greater "comeback potential" in the midst of occasional drought. Early varieties are bred for rapid fruit set; in other words, they are selected to make and mature a crop in as short a time as possible. Early varieties fit best under irrigation, for planting dates beyond May 20 to 25, and if drought occurs in August.

Keep in mind that some varieties developed for the South were bred in the Delta where earliness influences most every management decision. Earliness refers to rapid fruit set, boll maturation, and harvest in order to minimize insect control costs and harvest losses. For North Florida, ENDURANCE is far more important than earliness. Endurance is the ability to withstand drought and stress and resume fruiting with subsequent rainfall and favorable temperatures. With our long growing season, we have a wide window for bloom, from June 20 to the first week in September, almost 11 weeks. Normally, the effective bloom period of any cotton crop is only 4 to 6 weeks, but this wide window gives greater opportunity to set and make a crop...at least to some point. Again, the mid-full season varieties tend to take greater advantage of this broad fruiting window and have greater capacity to withstand mild stress and recover.

Variety selection for this season has been confounded because of shortages of DP 458 B/RR and several RR varieties. The resulting predicament spreads considerable grief among growers, dealers, and the seed and technology companies. It makes choosing (and recommending) varieties difficult. While it is easy to rant, stomp, and wring our hands, we have to deal with the situation and answer the question, "Where do we go from here?"...at least for the 2000 crop.

Option 1. Plant conventional varieties. Supplies and quality of several excellent conventional varieties are good. Competition abounds, and ultimately that will improve variety offerings to producers in future years.

Option 2. Proceed with the purchase of DP 458 B/RR even though some lots have marginal cool test values. The problems of DP 458 B/RR have been well publicized and attributed primarily to dormancy. Specifically, quality problems have been reflected in marginal cool test numbers. Cool test values may improve over time as a result of conditioning, cool storage, etc. Delta Pine has indicated that some DP 458 seed with warm/cool test values that do not meet 80/60 but do meet 80/50 will be available but marked as such. Such seed should be planted only under near ideal

conditions--when soil moisture is adequate for rapid germination and soil temperatures consistently exceed 70°F. Keep in mind that with technology varieties in short supply, we will NOT have sufficient seed to do a lot of replanting.

Option 3. Purchase alternative varieties with similar technology. The problem with this approach is that limited data and local experience exist regarding performance of these new varieties. Planting these continues the pattern of commitment to varieties with which we have not gained confidence and understanding. Full season stacked gene alternatives to DP 458 B/RR include DP 655 B/RR and PM 1560 B/RR. Data suggest that the latter may be the better of these two varieties. Several early to mid-maturity stacked gene varieties are available, including DP 451 B/RR, PM 1218 B/RR, SG 125 B/RR, SG 501 B/RR, and Stn 4892 B/R. Generally, the earlier varieties are more risky in North Florida in the absence of irrigation. The following is an informal estimate of comeback potential (from greatest to least) based on limited knowledge and experience: DP 655 B/RR, PM 1560 B/RR, DP 458 B/RR > SG 501 B/RR, Stn 4892 B/R, DP 451 B/RR > PM 1218 B/RR, SG 125 B/RR.
(UGA Cotton Newsletter 2/25/00, 3/21/00)

HARD LUCK WITH HARD LOCK COTTON

The past couple of years have seen a dramatic increase in a phenomenon called hard lock cotton. Until recently, it was mainly observed in Southern Georgia and Florida and seemed to be associated with high temperatures and high humidities. However, in 1998 and 1999 the problem was observed further north into the Carolinas, possibly due to the hurricane activity experienced there. It may also be associated with high nitrogen rates applied late in the season.

Hard lock cotton is identified as locks in which the cotton fibers do not fluff out at maturity and, when the distal end of the cotton lock is pulled outward, stay attached to the inside of the boll such that the cotton fibers break. Often only some of the locks are hard locked on a specific boll, the other lock fluffing out normally. The cause for hard lock cotton has not been identified, but we observed a pink discoloration at the attachment site and have isolated the fungus *Fusarium* spp, probably *Fusarium oxysporum*. We plan to reinoculate bolls this season to see if we can reproduce the symptoms.

Yields may be reduced by up to 50% when hard lock cotton is severe because the traditional spindle picker does not remove the locks from the boll, leaving the cotton in the field. However, if a boll stripper is used, the entire boll is pulled off the plant and the cotton fiber is successfully harvested. In trials at Quincy last year we found that up to 50% more cotton could be harvested with a stripper when hard lock was severe. However, a stripper may not be appropriate in traditional 36 inch row cotton. In the 7 inch Ultra Narrow Row cotton the stripper works fine, which is good since there are some indications that hard lock may be more severe in UNR cotton.

Hard lock does not seem to adversely affect the quality of the fibers. When cotton from hard lock bolls were separated out and sent with regular fluffed out cotton from the same plots for HVI analysis last year, differences were noted. The MIC and strength were lower in the hard locked cotton; length was about the same but uniformity was reduced in the hard locked fiber. Lint color indicated increased grayness and yellowness, the only parameter that was severe enough to trigger a discount from the hard locked cotton. The discoloration was possibly due to microbial activity. Seed quality was not evaluated.

We do not have a good reason as to why it has been increasing in severity and range. It may be an indication of the spread of the microbial agent, if in fact there is one, or possibly a response of newer varieties to humid conditions and/or fertilizer applications. We have not observed any particular variety, including genetically engineered ones, as having significantly more hard lock in variety trials at Quincy.

So, although hard lock cotton may cause significant yield loss because of the inability of spindle pickers to harvest the cotton, the actual quality of the cotton is acceptable. If there is a pathogen causing the symptoms, it may well be a situation like boll rot where chemical control programs are not very effective. We have ongoing studies looking at different management practices, including fertilizer applications, cultivation, and planting densities to try and identify what conditions are most conducive to development of hard lock. **(Marois and Wright, NFREC News 2-07)**

ULTRA-NARROW ROW COTTON RESEARCH

Ultra-narrow row cotton (UNR) is described as cotton grown in 10 widths or less. This concept of growing cotton was tried many years ago with little success because of the inability to control weeds. Cultivation and directed sprays cannot be done in rows 10 inches apart or less. However, with transgenic cotton both Roundup Ready and BXN, this method of growing cotton has been successful in Florida and currently is grown on about 10% of the acreage. UNR cotton has the advantage in that all cotton, including the hard lock can be harvested, which was a severe problem in 1998 and to a lesser degree in 1999. Another advantage of UNR cotton is the quick canopy closure, usually 30 days or less, as compared to about 55 to 60 days for conventional row width cotton. Early canopy closure results in less weed control efforts later in the season and usually translates into less cost and less pesticide being applied to the land. Another advantage is the harvesting machine costs less than 50% of a spindle picker and maintenance and fuel costs are less due to fewer moving parts and gears being turned. One concern has been the quality and grades of cotton from a finger stripper as compared to the spindle picker. A multi state study has shown little difference between grades when cotton is ginned to remove the higher level of trash found from the stripper. Research from the last 3 years of studies at NFREC has shown a 330 lb./A average yield increase from UNR cotton as compared to spindle picked in wide rows. Some of this yield increase came from harvesting the hard lock cotton. More UNR cotton is planned for the state in 2000, and we will get a better handle on production costs and techniques as we proceed. **(Wright, NFREC News 2-07)**

UPDATE ON CONFIRM REGISTRATION ON COTTON

Confirm 2F received a Section 3 registration from EPA for use on cotton. Following this registration in November 1999, Rohm and Haas, the manufacturer of Confirm, applied for a state label in Florida. A state label is anticipated prior to the 2000 use season. On cotton, Confirm (active ingredient tebufenozide) will be registered to control the beet armyworm, cabbage looper, fall armyworm, southern armyworm and the yellowstriped armyworm. For the beet armyworm rates will range from 4-8 ounces per acre for early season applications on pre-squaring cotton to 8-

16 ounces per acre for mid- to late season applications. Higher rates are recommended for heavy infestations and/or when thorough coverage is difficult (large plants). Repeat applications at 10 to 14 day intervals may be necessary when oviposition is sustained. Cabbage looper, fall armyworm, southern armyworm and yellowstriped armyworm may be controlled at rates of 8 to 16 ounces per acre.

A maximum of 16 ounces per application and 64 ounces per season may be applied. A minimum of 14 days between the last application and harvest and 30 days between the last application and the planting of a non-registered crop must be observed. All applications of Confirm 2F must be made using Latron CS-7 or similar spreader-binder using the manufacturers' labeling to maximize coverage and distribution.

(Sprenkel, NFREC News, 2-06)

PIRATE REGISTRATION REQUEST WITHDRAWN

American Cyanamid withdrew its request for registration of Pirate (chlorfenapyr). According to Bureau of National Affairs (BNA) publication, action was taken after the March 13 decision by EPA to deny registration for control of beet armyworm on cotton. Cyanamid has been seeking Section 3 full registration since '94.

EPA has ecological concerns regarding use of Pirate and impact on bird reproduction. The agency's decision followed two consultations with the Federal Insecticide, Fungicide and Rodenticide Act Scientific Advisory Panel on ecological risk assessments and input from the US Fish and Wildlife Service.

According to the American Bird Conservancy (ABC), lab studies with chlorfenpyr show decline of about 50% in number of eggs laid, number of viable embryos and number of normal hatchlings. ABC Director Kelley Tucker says this is the first time organizations and individuals joined to stop pesticide registration solely based on its threat to birds.

American Cyanamid, on other hand, contends that data and risk assessments on Pirate use on cotton "does not present an unreasonable risk to the environment." Also, the company said that Pirate has been used on millions of cotton acres under Section 18 emergency exemptions for five years with no observed adverse effects.

Because the company has withdrawn Section 3 application, the EPA cannot legally grant Section 18 requests for Pirate, according to the BNA article. The EPA says that Tracer is the registered alternative and that two other pesticides-Confirm and Denim-are in the registration pipeline.
(NCC Cotton's Week, 3/17/00)

PEANUT VARIETIES FOR 2000

E. B. Whitty, D. W. Gorbet, and L. S. Dunavin Jr.

Peanut farmers now have more variety choices than in recent years. Several suitable varieties have been released and more are expected in the future. The selection of a variety or combination of varieties for a farm may be different than the selections for a neighboring farm. When evaluating the choice of a variety, there are several considerations that must be kept in mind. Good yield and grade over a wide range of conditions are usually the most important considerations because they determine the gross return from the crop. Table 1 and Table 2 present the yield, grade, and maturity of several runner and virginia varieties grown at three locations in Florida. All of the listed varieties generally produced satisfactory yields and grades at all three locations. Tests were irrigated at Marianna and Gainesville. Note that the average yields presented may include only two years for some varieties, rather than a six-year average in most instances. When comparing averages, be sure the same years are represented. Pressure from tomato spotted wilt virus (TSWV) is usually severe at Marianna and yields of susceptible varieties are low.

RUNNER MARKET TYPE VARIETIES

The following runner varieties offer a wide range of characteristics that could be important in the selection of a variety.

Andru 93

This variety was developed by the University of Florida and licensed to Anderson Peanut Company. Early maturity is a major attribute of Andru 93. Normally, Andru 93 will mature about 10 days earlier than Florunner. The time from planting to maturity is about 125 days when the planting date is about May 1 and weather conditions are normal. If planted early, plants develop slower and the days from planting to maturity could be 135 or more.

Plants of Andru 93 have a runner growth habit and have a more prominent center stem and lighter green foliage than Florunner. Andru 93 has shown a 5 to 10% yield advantage over Florunner in Florida tests.

AT 108

This is a recent release by AgraTech Seeds and is a high-yielding variety with maturity similar to Florunner. AT 108 is susceptible to TSWV.

AT 120

AT 120 is an early-maturing variety, but has has limited testing at multiple locations in Florida. The variety is susceptible to TSWV.

Flavor Runner 458

This variety was released by Mycogen and is a high oleic variety. Flavor Runner 458 is similar to Florunner in characteristics other than oleic acid content. There are reports that TSWV damaged Flavor Runner 458 at some locations.

Florida C99R
This variety is a recent release by the University of Florida. It is currently in the seed increase stage and seed supplies will be limited in 2000. It has been one of the higher-yielding entries in yield tests at multiple locations. Florida C99R produces large seeds and has resistance to leafspot, white mold, TSWV, and rust. It is a late-maturing variety.

Florida MDR 98
This variety was released by the University of Florida. The MDR in the name stands for multiple disease resistance, and the diseases include late leafspot, white mold, TSWV, and rust. These are characteristics derived from Southern Runner, one of the parents. Florida MDR 98 appears to have slightly more resistance to root-knot nematodes than does Southern Runner, but still should not be planted in fields heavily infected with root-knot nematodes. Like Southern Runner, Florida MDR 98 matures about two weeks later than Florunner. Florida MDR 98 also has a medium level of oleic acid in the seed.

Florunner
The impact of Florunner on the peanut industry has been surpassed by no other variety. At one time, it was grown on more peanut acreage in the United States than all other varieties combined. Florunner was released in 1969 by the University of Florida.

Florunner plants have a runner growth habit and produce high yields and grades of nuts over a wide range of conditions. Other more recently released varieties now equal or exceed Florunner yields. Acreage of this variety will probably continue to decline, as it is very susceptible to TSWV.

Georgia Bold
This is a new, large-seeded variety with medium-early maturity. Grades are usually high with this variety.

Georgia Green
Due to high yields, good grades, and resistance to TSWV and white mold, Georgia Green has become a very popular variety. Georgia Green does not have resistance to late leafspot, nor does it take as long to mature as does Southern Runner, one of the parents.

GK 7
This variety was released by AgraTech Seeds in 1984 and has become one of the more popular varieties because of good yields and grades. Many farmers prefer GK 7 over Florunner because the main stem is more prominent. This is an aid to staying on the row when digging. Popularity of GK7 has declined because the variety is susceptible to TSWV.

GK 7 Hi Oleic
AgraTech Seeds recently released a high oleic variety that otherwise is very similar to GK 7. Like other high oleic varieties, it appears to be especially susceptible to TSWV.

Southern Runner
The University of Florida released Southern Runner in 1986, and it was the first variety to have resistance to late leafspot. The number of fungicide sprays can be reduced to about half the number needed for Florunner. White mold and TSWV are less damaging to Southern Runner than to most other varieties.

Another feature of this variety is that it requires two or three more weeks to mature than Florunner. If planted in late March or early April before soils warm up, germination and stand establishment is slow. Since a late planting in early June could result in slowed pod filling during cool weather in late October, it is probably best to plant Southern Runner in early May.

Southern Runner has a more prostrate growth habit and lighter green foliage than Florunner. The seed are smaller than Florunner. Since seed of Southern Runner should be kept separate from those of other varieties, not all buying points have facilities to store it. Before planting Southern Runner, contact your sheller.

SunOleic 97R
This variety was released by the University of Florida to replace SunOleic 95R, the first commercial variety with a high oleic acid content. SunOleic 97R is less susceptible to TSWV than SunOleic 95R, and yields are also better. However, SunOleic 97R does not produce well in the presence of TSWV.

Tamrun 96
This variety was released by Texas A & M University. It has produced good yields in Florida, and appears to have some tolerance to TSWV.

ViruGard
AgraTech Seeds released this variety in 1997. It has resistance to TSWV and has produced good yields. In some cases, ViruGard matures earlier than the expected 135 days. This may be due to weather conditions, but growers of this variety should be sure to use the hull-scrape or peanut maturity profile method of predicting maturity. This may help prevent losses of over mature pods before or at digging.

Table 1. Yield of selected peanut varieties at two Florida locations.

	MARIANNA	**GAINESVILLE**	

	Pod Yield (lb/A)		Pod Yield (lb/A)		Pod Yield (lb/A)	
Variety	**1999**	**1997-99 Average**	**1999**	**1997-99 Average**	**1997-99 Average**	
Andru 93	1292	2392	5578	4703	2550	3582[3]
AT 108	2055	2437	5324	4445	?	3766[4]
AT 120	1128	2103	xx	xx	xx	xx
Flavor Runner 458	1120	1910	5227	4505	xx	xx
Florida C99R	3906	3906[5]	6292	6292[1]	3860	3925[5]
Florida MDR 98	2456	3256	5022	4316	2290	2850[5]
Florunner	1186	1698	5783	4682	3230	3871[3]
Georgia Bold	1621	2038[2]	5772	5246	xx	xx
Georgia Green	2580	2892	5542	5199	3400	3807[3]
GK 7	1433	1850	5675	4961	3450	3825[3]
GK 7 Hi Oleic	1316	2040	5627	5082	3280[7]	3405[5]
Southern Runner	2374	2647	5493	4707	2500[7]	3593[3]
SunOleic 97R	1133	2046	4913	4711	2130	3597[3]
Tamrun 96	1946	2474	5058	4889	xx	xx
ViruGuard	2841	2973	3896	4110	3480	3385[5]

[1] 1999 only
[2] 1998-1999 average
[3] 1996-1999 average
[4] 1996-1998 average
[5] 1998-1999 average
[6] 1998-only
[7] ____stands

Table 2. Grade and maturity of selected peanut varieties in Marianna and Gainesville.

Variety	TSMK (%)		WM AND TSWV	Maturity
	Marianna	Gainesville	1997-1999 average	
Andru 93	73.1	77.7	6.4	Early
AT 108	71.9	76.4	7.1	Medium
AT 120	73.0	–	7.8	Early
Flavor Runner 458	76.7	76.4	6.9	Medium
Florida C99R	77.3	78.6	2.7	Late
Florida MDR 98	77.7	78.8	2.9	Late
Florunner	75.0	76.7	6.6	Medium
Georgia Bold	76.2	79.6	6.3	Medium
Georgia Green	77.3	79.2	4.9	Medium
GK 7	75.7	76.1	6.8	Medium
GK 7 High Oleic	75.9	77.6	6.9	Medium
Southern Runner	75.0	77.5	4.1	Late
SunOleic 97R	75.2	75.9	7.0	Medium
Tamrun 96	74.3	74.9	5.0	Medium
ViruGard	77.4	78.5	4.3	Early-Medium

[1] White mold and tomato spotted wilt virus rating (1 - 10, 1 = no disease)

BIOSOLIDS AVAILABLE FOR PASTURE AND HAYFIELDS

Esambia County Utilities Authority (ECUA) will have biosolids available for agricultural producers with pasture and/or hay fields. One ton of biosolids will have approximately ninety pounds of slow release nitrogen.

Interested persons should leave their name, address, phone number and acreage available at the Escambia (475-5230) Santa Rosa County Milton (623-3868) or Jay (675-3107) Extension offices. When biosolids become available a demonstration of handling and spreading of biosolids will be conducted at the Langley Bell 4-H Camp for interested parties to see, touch, and smell the material.

It is the present intention to have representatives from the Environmental Protection Agency (EPA), Department of Environmental Protection (DEP), ECUA and the University of Florida Soils Department at the demonstration to answer questions. There should be minimal regulations with regard to use of this product.

Persons with twenty-five acres or more will be given priority.

The use of trade names in this publication is solely for the purpose of providing specific information. It is not a guarantee, warranty, or endorsement of the products names and does not signify that they are approved to the exclusion of others.

Sincerely,

Mike Donahoe
District Director
Santa Rosa County

John Atkins
Extension Agent III
Santa Rosa County